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Claims:

1. An assembly for transferring a liquid between a vial and a syringe, comprising:
 - a) a housing having a central portion, the housing being
5 open at one end and having a vial socket at the other opposite end adapted to receive and retain a vial having a penetrable closure;
 - b) a sleeve located within the central portion of the housing, the sleeve having a first portion, a second portion adjacent the first portion, and a shoulder between the first portion and the second portion;
 - 10 c) a protractible luer adaptor with a central hub having a first axial end and a second axial end, the first axial end having mounted thereon a piercing member having a bore and a tip having an opening and the second axial end having an engaging member for releasably engaging a syringe, the piercing member, the central hub, and the engaging member
15 being in fluid communication with one another;
 - d) the protractible luer adaptor being longitudinally slidable within the sleeve between a retracted position where the tip of the piercing member is substantially contained within the central portion of the housing and an advanced position where the tip of the hollow piercing member
20 extends into the vial socket.
2. An assembly according to claim 1 further comprising a venting needle assembly releasably mounted on the first axial end of the protractible luer adaptor to provide a passageway for gas to flow between a vial retained in the vial socket and the assembly when the protractible luer is in the
25 advanced position.
3. An assembly according to claim 2 wherein the venting needle assembly comprises a needle having a bore and a tip with a first opening, and a base having a second opening, the first and second openings being in fluid communication with one another.

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4. An assembly according to claim 3 wherein the diameter of the bore of the venting needle is smaller than the diameter of the bore of the piercing member.
5. An assembly according to claim 1 further comprising a syringe socket at the open end of the housing for receiving a syringe.
6. An assembly according to claim 1 further comprising a retaining member in the vial socket for retaining a vial within the vial socket.
7. An assembly according to claim 6 wherein the retaining member comprises an annular ridge on the interior surface of the vial socket, the annular ridge having a smaller diameter than the diameter of the vial socket.
8. An assembly according to claim 6 wherein the retaining member comprises a plurality of latches provided in the vial socket.
9. An assembly according to claim 1 further comprising a shoulder between the vial socket and the central portion of the housing to limit the degree of insertion of a vial in the housing.
10. An assembly according to claim 1 wherein the housing includes at least one rib on an interior surface of the housing to limit the degree of insertion of a vial in the housing.
11. An assembly according to claim 1 wherein the interior surface of the first portion includes a detent engaging and retaining the protractible luer adaptor in the retracted position.
12. An assembly according to claim 11 wherein the protractible luer adaptor includes a flange adjacent the second end and the detent is configured to receive the flange therein.
13. An assembly according to claim 1 further comprising a plurality of longitudinal ribs on an interior surface of the second portion of the sleeve that matingly engage a plurality of longitudinal ribs on the central hub of the

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protractible luer adaptor to prevent rotation of the protractible luer adaptor with respect to the housing during operation.

14. An assembly according to claim 1 wherein the protractible luer adaptor includes a flange adjacent the second end, the flange abutting the shoulder between the first portion and the second portion while in the advanced position to limit the advancement of the tip of the piercing member into the vial socket.
15. An assembly according to claim 14 wherein the diameter of the flange is substantially equal to the inner diameter of first portion of the sleeve to provide a fluid seal therewith when the protractible luer adaptor is in the advanced position.
16. An assembly according to claim 1 further comprising at least one protrusion on an exterior surface of the protractible luer adaptor, the at least one protrusion having a bottom edge and a side edge, the bottom edge abutting the top surface of the second portion of the sleeve while in the advanced position to prevent the protractible luer adaptor from being removed from the sleeve.
17. An assembly for use with a syringe having a body, a neck end, and a hollow cannula, the assembly comprising a needle having a tip with a first opening, a base with a second opening, and a central bore extending between the first and second openings, the base adapted to be releasably mounted to the neck end of the syringe.